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ber, and, with the pulse-rate full, there is ordinarily less blood in the brain.

Now, it is evident that the anæmia of sleep is not caused by constricted blood-vessels, else there would be the facial pallor seen during an attack of epilepsy, or paroxysm of anger or fright; and with this quieting of the brain-processes by stimuli withdrawal, such as is afforded by darkness, silence, and absence of irritation generally, a further lessening of molecular interchange in the brain occurs; and, I claim that it is the molecular activity in the brain that attracts the blood there chemically and mechanically, and the sympathetic, or vaso-motor system has evolved to facilitate this regulation of demand and supply. Then, granting this, there will be, during sleep, a passive condition of the blood-vessels, and the blood supply will fall to a minimum.

An extension of these considerations will enable all that pertains to sleep to be accounted for, such as æstivation, hibernation, insomnia, dreams, and all derangements of sleep. I hope soon to be able to treat this subject more fully.

S. V. CLEVENGER.

Chicago, Oct. 15.

### Solid Glycerine.

IN response to the inquiry of Mr. C. C. Smith regarding the solidification of glycerine, I would say: A mixture of glycerine with water can be frozen at a sufficiently low temperature, and this temperature must be the lower proportionately as the percentage of glycerine is high. Thus, a ten per cent glycerine solution solidifies at  $-1^{\circ}\text{C}$ ., a twenty per cent solution at  $-2.5^{\circ}\text{C}$ ., a forty per cent solution at  $-17.5^{\circ}\text{C}$ .

Concentrated glycerine will not crystallize when cooled quickly, but at  $-40^{\circ}\text{C}$ . will solidify to a gum-like mass. If a concentrated solution be allowed to stand for some time at  $0^{\circ}\text{C}$ . crystals may form, but not always. The melting-point of these crystals, which are extremely hygroscopic, has been variously determined; and, indeed, their form of crystallization is much in dispute.

Two cases are reported of glycerine having become solidified and crystallized during transport in the cold of winter. The first case occurred in January, 1867, the crystals formed being described as small octohedral, melting at  $7.2^{\circ}\text{C}$ . In the second case, 1876, the crystals are described as belonging to the monoclinic system, and melting at  $15^{\circ}\text{C}$ .

According to Werner, commercial glycerine may be crystallized by bubbling chlorine-gas through it. A method discovered by Kraut in 1870, but to the best of my knowledge not yet made public, is used on a commercial scale in the works at Liesing, near Vienna. The concentrated glycerine is cooled to  $0^{\circ}\text{C}$ ., and maintained at that temperature for some time, when crystals of glycerine previously produced are introduced. This causes a crystallization of the entire mass, leaving, however, much of the impurity in the mother liquor. The mass is then placed in a centrifugal, and the crystals freed. These are described as monoclinic, melting at  $20^{\circ}\text{C}$ . to glycerine of  $30.5^{\circ}\text{B}$ . According to Von Lang, the crystals are orthorhombic.

CHARLES PLATT, A.C.

The Vandenberg Laboratory, Buffalo, Nov. 8.

### BOOK-REVIEWS.

*Crania Ethnica Americana. Sammlung Auserlesener Amerikanischer Schädeltypen.* Herausgegeben von RUDOLF VIRCHOW. Mit 26 Tafeln und 29 Text-Illustrationen. Large 4to. Berlin, A. Asher & Co., 1892. 36 marks.

SINCE the publication of Dr. Morton's "Crania Americana," now more than half a century ago, there has been no contribution to American craniology at all comparable to this work by the acknowledged master of that science in Germany. Future investigators will undoubtedly follow the lines and be guided by the principles here laid down or suggested. Let us briefly see what these are.

### CALENDAR OF SOCIETIES.

#### Biological Society, Washington.

Nov. 5.—C. Hart Merriam, The Fauna and Flora of Roan Mountain, N.C.; C. V. Riley, Pea and Bean Weavils; Vernon Bailey, The Influence of the Cross Timbers on the Fauna of Texas; Theobald Smith, On Certain Minute (Parasitic?) Bodies Within the Red Blood Corpuscles.

#### New Mexico Society for the Advancement of Science, Las Cruces, New Mexico.

Nov. 3.—J. P. Owen, Notes on the Mound Builders; C. H. Tyler Townsend, A Partial Comparison of the Insect Fauna of the Grand Cañon with that of the San Francisco Mountain, in Arizona; Arthur Goss, The Exhaustion and Renewal of Soils; C. T. Hagerty, Mathematical Computation of the Comparative Strength of Insects and the Higher Animals.

### Publications Received at Editor's Office.

BUBIER, E. T. 2nd. Questions and Answers About Electricity. New York, D. Van Nostrand Co. 16 $\frac{1}{2}$  p. Ill. 50 cts.  
CHURCH, ALFRED J. Stories from the Greek Comedians. New York, Macmillan & Co. 12 $\frac{1}{2}$  p. Ill. \$1.  
CROCKER, F. B. AND WHEELER, S. S. The Practical Management of Dynamo and Motors. New York, D. Van Nostrand Co. 12 $\frac{1}{2}$  p. Ill. \$1.  
FERREE, BARR. Comparative Architecture. New York, The Author. 8 $\frac{1}{2}$  p. Paper. 15 p.  
GALTON, FRANCIS. Hereditary Genius. 2d ed. New York, Macmillan & Co. 8 $\frac{1}{2}$  p. \$2.50.  
HORN, ARTHUR H. Metal Coloring and Bronzing. New York, Macmillan & Co. 16 $\frac{1}{2}$  p. \$1.  
HUDSON, W. H. The Naturalist in La Plata. London, Chapman & Hall. 8 $\frac{1}{2}$  p. \$3.  
SLOANE, T. O'CONNOR. The Standard Electrical Dictionary. New York, Norman W. Henley & Co. 12 $\frac{1}{2}$  p. 624 p. \$3.  
SPEAR, MARY A. Leaves and Flowers. Boston, D. C. Heath & Co. 12 $\frac{1}{2}$  p. 103 p. 30 cts.  
UNIVERSITY OF PENNSYLVANIA. Contributions from the Botanical Laboratory. Phila., The University. 8 $\frac{1}{2}$  p. Paper. 72 p. Ill.

### Exchanges

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For Sale or Exchange.—The undersigned has a lot of first-class duplicate bird's skins and sets of eggs, both rare and common, for sale or acceptable exchange. Also about two hundred second-class skins and five hundred eggs, suitable for study specimens, at very low figures. The latter, for starting a collection, are as good as the best, embracing all classes and nearly all families. Also about forty species of fossils, principally Devonian. MORRIS GIBBS, M.D., Kalamazoo, Mich.

For Exchange—"The Birds of Kansas."—Goss, for Gray's Anatomy, or Medical Dictionary. Must be in good condition. Address, J. H. SIMPSON, Buchtel College, Akron, Ohio.

For Sale or Exchange.—The subscriber would like to receive cash offers, or an offer in exchange for the earlier volumes of Poggenorff's Annalen and the later volumes of Silliman's Journal, upon the following list: Chenn—Manuel de Conchyliologie. 2 vols. Nearly 5,000 figures, some hand-colored Paper. Paris, 1839. Edwards.—Butterflies of N. A. 2 vols. Plates hand-colored. Vol. I., half calf. Vol. II. in parts. Leyman, Agassiz. Hagen.—Ills. Cat. Mus. Comp. Zool. at Harvard. No. I. Ophiuridae. No. II., Acalephae. No. III., Astacidae. All bound in one volume. American Naturalist. Vols. I.—VII. Cloth. Silliman's Am. Jour. of Science and Arts. Third Series. Vols. I.—X. Cloth. Binney.—Terrestrial Mollusks of N. A. Colored plates. 4 vols. Stretch.—Zygaenidae and Bombycidae of N. A. Colored plates. Also a considerable library of monographs, reports, and scientific books, and a large number of duplicates of fossils, minerals and shells. E. A. STRONG, Ypsilanti, Mich., Sept., 1892.

### Reading Matter Notices.

Ripans Tabules : for torpid liver.

Ripans Tabules banish pain.

### Wants.

A POSITION is desired in the South, preferably the Gulf States, where I can teach the sciences. Can also instruct in other branches. Salary only nominal, as I am simply desirous of employment while spending the winter in the South. A private family preferred, but will accept regular school work if not too confining. MORRIS GIBBS, M.D., Kalamazoo, Mich.

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## The American Geologist for 1892.

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